UNITED STATES PATENT AND TRADEMARK OFFICE

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10/720,548	11/24/2003	Jonathan Richard Thorpe	282550US8X	4570

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
CAO, PHUONG THAO

ART UNIT	PAPER NUMBER
2164	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

	Application No.	Applicant(s)
Office Action Summary	10/720,548	THORPE, JONATHAN RICHARD
	Examiner	Art Unit	
	Phuong-Thao Cao	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 February 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-8 and 10-13</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4-8 and 10-13</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some *   c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is in response to Amendment filed on 2/16/2007.

2.   Claims 1, 2, 4, 5, 7, 8 and 10-12 have been amended. Claims 3 and 9 have been

cancelled. Currently, claims 1, 2, 4-8 and 10-13 are pending.

3.   Amendment is effective to overcome double patenting rejection relating to copending

application 10/536,580 in the previous office action.

Response to Arguments

4.   Applicant's arguments with respect to claims 1, 2, 4-8 and 10-13 have been considered

but are moot in view of the new ground(s) of rejection.

Claim Objections

5.   Claim 7 is objected to because of the following informalities: "the user define video

image" should be "the user defined video image". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   Claim 1, 2, 4-6 and 12 is rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Regarding claim 1, language *"operable to"* (line 9, line 18 and line 20) raises question as

to whether the recited component performs the recited step. It is unclear regarding the metes and

bounds of the claimed invention. Language *"configured to"* is suggested to replace *"operable

to"*.

Similarly, language *"operable to"* used in claim 2 (line 2 and line 4), claim 5 (line 2) and

claim 6 (line 2) should be corrected.

Claim 2 is rejected as incorporating the deficiencies of claim 1 upon which it depends.

Claim 12 recites the limitation "the search processor" in line 4. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1, 2, 4, 5, 7, 8 and 10-13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Endou et al. (Publication No US 2002/0105541) in view of Wolff (US Patent

No 5,847,708).

        As to claim 1, Endou et al. teaches:

"An information retrieval apparatus for searching a set of information items and displaying

results of the search using a self-organizing map" (see Abstract and [0096]), the apparatus

comprising:

        "a graphical user interface operable to display a representation of at least some of the

information items as a n-dimensional array of display points within the self-organizing map with

a display area, the information items each having a set of characterizing information features

which include data representative of one or more video images" (see Fig. 4, [0070], [0076] ,

[0098] and [0099] wherein feature values associated with each information set as disclosed is

equivalent to Applicant's "characterizing information features"),

        "processor configured to train the self-organizing map, using color histograms for each

video image, to an effect that the color histogram representing the video image of the

information item when applied to an input of the self-organizing map as a feature vector

identifies one of a plurality of output nodes, the output nodes being arranged to identify points

within the self-organizing map" (see [0098], [0099] and [0112] for the disclosure of the self-

organizing map as learning method wherein a high-dimensional feature vector space is mapped

to a low-dimensional space (as training the self-organizing map), the self-organizing map

processed based on feature values including color histogram for image media information (as

video image)),

"a user control operable in response to a user input to select a video image of an

information item" (see [0117]), and

"a search processor operable" (see [0134])

"to form a color histogram of the user selected video image" (see [0063]-[0064] wherein

color histogram is a feature value extracted from image information; also see [0068] for HIS

color histogram feature value calculating function),

"to generate a user defined feature vector from the user selected video image using the

color histogram" (see [0067] for a method to regard the feature value (i.e., color histogram) as

vector; also see [0098] wherein each data is represented by a feature vector),

"to search the set of information items by applying the user defined feature vector to the

input of the self-organizing map to identify information items which include video images

having color histograms corresponding to that of the user defined video image" (see [0098] for

disclosure of data having similar feature vectors arranged close to each other and in particular

images having similar color information (as color histogram) arranged close to each other

[0112]).

Endou et al. do not teach "a search processor operable to perform a related search with

respect to the user selected video image by identifying, from the self-organizing map,

information items which correspond to positions in the array which are neighbouring positions

with respect to the array position corresponding to the user selected information item".

Wolff teaches "a search processor operable to perform a related search with respect to the

user selected video image by identifying, from the self-organizing map, information items which

correspond to positions in the array which are neighbouring positions with respect to the array

position corresponding to the user selected information item" (see [column 10, lines 30-45 and

52-60] wherein a search for documents which are similar to the icon when user selects the icon is

equivalent to Applicant's "related search" and similarity metrics of nearby icons, which must be

identified to create a search query as described, is equivalent to information items identified from

the map as in Applicant's claim language).

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Endou et al. by the teaching of Wolff, since Endou et al.

and Wolff pursue a system which uses a self-organizing map as a technique for retrieving and

searching for information and adding a feature of perform a related search as disclosed provide

users with more flexible and effective way to search for information using the map.

As to claim 2, this claim is rejected based on arguments given above for rejected claim 1

and is similarly rejected including the following:

Endou et al. as modified teaches:

"wherein the search processor is operable to search the set of information items in

accordance with a search query and to identify information items corresponding to the search

query, and the search processor is operable to generate the self-organizing map data of

information items identified as a result of the search on the search query" (see [0088], [0099] and

[0117]).

. As to claim 4, this claim is rejected based on arguments given above for rejected claim 1

and is similarly rejected including the following:

Endou et al. as modified teaches:

"wherein a number of dimension n is two and a position in the array is defined by x, y

coordinates" (see [0076] and Fig. 4 wherein dimension of XY plane is two and a position in XY

plane is defined by x, y coordinates).

As to claim 5, this claim is rejected based on arguments given above for rejected claim 4

and is similarly rejected including the following:

Endou et al. as modified does not teach:

"wherein the search processor is operable to perform a related search with respect to the

user selected video image by identifying information items which correspond to positions in the

array which are with a radius of positions from the array position corresponding to the user

selected video image".

Wolff teaches "wherein the search processor is operable to perform a related search with

respect to the user selected video image by identifying information items which correspond to

positions in the array which are within a radius of positions from the array position

corresponding to the user selected information item" (see [column 10, lines 40-60] wherein the

circle radius can be interpreted as the specificity of the desired search as claimed).

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Endou et al. by the teaching of Wolff, since Endou et al.

and Wolff pursue a system which uses a map as a technique for retrieving and searching for

information and adding a feature of perform a related search as disclosed provide users with

more flexible and effective way to search for information using the map.

As to claim 7, Endou et al. teaches:

"A method for searching a set of information items and displaying results of the search using a

self-organizing map" (see Abstract and [0096]), the apparatus comprising:

"displaying a representation of at least some of the information items as a n-dimensional

array of display points within the self-organizing map with a display area, the information items

each having a set of characterizing information features which include data representative of one

or more video images" (see Fig. 4, [0070], [0076] , [0098] and [0099] wherein feature values

associated with each information set as disclosed is equivalent to Applicant's "characterizing

information features"),

"training the self-organizing map, using color histograms for each video image, to an

effect that the color histogram representing the video image of the information item when

applied to an input of the self-organizing map as a feature vector identifies one of a plurality of

output nodes, the output nodes being arranged to identify points within the self-organizing map"

(see [0098], [0099] and [0112] for the disclosure of the self-organizing map as learning method

wherein a high-dimensional feature vector space is mapped to a low-dimensional space (as

training the self-organizing map), the self-organizing map processed based on feature values

including color histogram for image media information (as video image)),

"selecting a video image of an information item in response to a user input" (see [0117]),

and

"forming a color histogram of the user selected video image" (see [0063]-[0064] wherein

color histogram is a feature value extracted from image information; also see [0068] for HIS

color histogram feature value calculating function),

"generating a user defined feature vector from the user selected video image using the

color histogram" (see [0067] for a method to regard the feature value (i.e., color histogram) as

vector; also see [0098] wherein each data is represented by a feature vector),

"searching the set of information items by applying the user defined feature vector to the

input of the self-organizing map to identify information items which include video images

having color histograms corresponding to that of the user defined video image" (see [0098] for

disclosure of data having similar feature vectors arranged close to each other and in particular

images having similar color information (as color histogram) arranged close to each other

[0112]).

Endou et al. do not teach "performing a related search with respect to the user selected

video image by identifying, from the map, information items which correspond to positions in

the array which are neighbouring positions with respect to the array position corresponding to the

user selected video image".

Wolff teaches "performing a related search with respect to the user selected video image

by identifying, from the self-organizing map, information items which correspond to positions in

the array which are neighbouring positions with respect to the array position corresponding to the user selected information item" (see [column 10, lines 30-45 and 52-60] wherein a search for documents which are similar to the icon when user selects the icon is equivalent to Applicant's "related search" and similarity metrics of nearby icons, which must be identified to create a search query as described, is equivalent to information items identified from the map as in Applicant's claim language).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Endou et al. by the teaching of Wolff, since Endou et al. and Wolff pursue a system which uses a self-organizing map as a technique for retrieving and searching for information and adding a feature of perform a related search as disclosed provide users with more flexible and effective way to search for information using the map.

As to claim 8, this claim is rejected based on arguments given above for rejected claim 7 and is similarly rejected including the following:

Endou et al. as modified teaches:

"searching information items in accordance with a search query" (see [0088] wherein selection criterion is equivalent to Applicant's "search query"),

"identifying information items corresponding to the search query" (see [0088]), and

"generating the self-organizing map of information items identified as a result of the searching the information items in accordance with the search query" (see [0099] and [0117]).

As to claim 10, this claim is rejected based on arguments given above for rejected claim 7 and is similarly rejected including the following:

Endou et al. as modified teaches:

"wherein a number of dimension n is two and a position in the array is defined by x, y coordinates" (see [0076] and Fig. 4 wherein dimension of XY plane is two and a position in XY plane is defined by x, y coordinates).

As to claim 11, this claim is rejected based on arguments given above for rejected claim 10 and is similarly rejected including the following:

Endou et al. as modified does not teach:

"wherein the performing the related search comprises performing a related search with respect to the user selected video image by identifying information items which correspond to positions in the array which are with a radius of positions from the array position corresponding to the user selected video image".

Wolff teaches "wherein the performing the related search comprises performing a related search with respect to the user selected video image by identifying information items which correspond to positions in the array which are within a radius of positions from the array position corresponding to the user selected information item" (see [column 10, lines 40-60] wherein the circle radius can be interpreted as the specificity of the desired search as claimed).

As to claim 12, this claim is rejected based on arguments given above for rejected claim 11 and is similarly rejected including the following:

Endou et al. as modified teaches:

"selecting including providing the user with a facility for specifying the radius of

positions in accordance with a relative similarity of the information to be searched by search

processor in the related search, with respect to the array position of interest" (see [0088] wherein

a selection criterion includes similarity information with respect to a specific information set).

As to claim , this claim is rejected based on arguments given above for rejected claim 10

and is similarly rejected including the following:

Endou et al. as modified does not teach:

As to claim 13, this claim is rejected based on arguments given above for rejected claim 7

and is similarly rejected including the following:

Endou et al. as modified does not teach:

"a storage medium providing computer software having program code, which when

executed on a computer causes the computer to carrying out a method according to claim 7" (see

[0027]).

10.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Endou et al.

(Publication No US 2002/0105541) in view of Wolff (US Patent No 5,847,708) as applied to

claim 1 above, and further in view of Lin et al. ("A Self-organizing Sematic Map for Information

Retrieval", 1991).

As to claim 6, this claim is rejected based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Endou et al. and Wolff do not teach:

"wherein the user control is operable to provide the user with a facility for specifying a number of neighbouring positions in accordance with a relative similarity of the information items to be searched by the search processor in the related search, with respect to the array position of interest".

Lin et al. as modified teach:

"wherein the user control is operable to provide the user with a facility for specifying a number of neighbouring positions in accordance with a relative similarity of information items to be search by the search processor in the related search, with respect to the array position of interest" (see [page 266, column 1, paragraph 7] and Fig. 4a-c wherein the function of selecting nodes by drawing a rectangular region of nodes from the map is equivalent to Applicant's claim language and drawing a region of choice including any specific number of neighboring nodes around the node of interest).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Endou et al. and Wolff by the teaching of Lin et al., since Endou et al., Wolff and Lin et al. pursue a system which uses a self-organizing map as a technique for retrieving and searching for information and adding a feature of perform a related search as disclosed provide users with more flexible and effective way to search for information using the map.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Phuong-Thao Cao whose telephone number is (571) 272-2735.

The examiner can normally be reached on 8:30 AM - 5:00 PM (Mon - Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

prc
Phuong-Thao Cao
Art Unit 2164
April 25, 2007

Jean M. Cornelius
Primary Examiner
Art Unit 2162